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U.S.S.N. 10/767,810 (DP-308844) - 2

## LISTING OF THE CLAIMS:

1. – 2. (canceled).
3. (currently amended) The rollover sensing apparatus as defined in claim 27 ~~[[2]]~~, wherein the first and second accelerometers comprise ~~accelerometer comprises~~ a dual-axis accelerometer ~~providing the first and second acceleration sensors for providing the first and second acceleration~~ signals.
4. (original) The vehicle rollover apparatus as defined in claim 3, wherein the dual-axis accelerometer comprises a low-g accelerometer.
5. (currently amended) The rollover sensing apparatus as defined in claim 27 ~~[[2]]~~, wherein the first and second accelerometer sensors are oriented such that the first axis is substantially orthogonal to the second axis.
6. (original) The rollover sensing apparatus as defined in claim 5, wherein the first axis is oriented at an angle approximately 45 degrees relative to the longitudinal axis of the vehicle, and a second axis is oriented at an angle approximately 45 degrees relative to the longitudinal axis of the vehicle.
7. (currently amended) The rollover sensing apparatus as defined in claim 27 ~~[[1]]~~, wherein the safing signal is processed with a rollover discrimination signal to generate a vehicle overturn condition signal as a function of the rollover discrimination signal and the safing signal.
8. – 11. (canceled)

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12. (currently amended) The rollover sensing apparatus as defined in claim 28 [[11]], wherein the first and second accelerometers comprise ~~accelerometer comprises~~ a dual-axis accelerometer providing the first and second acceleration sensors.

13. (original) The vehicle rollover apparatus as defined in claim 12, wherein the dual-axis accelerometer comprises a low-g accelerometer.

14. (currently amended) The rollover sensing apparatus as defined in claim 28 [[11]], wherein the first and second acceleration sensors are oriented such that the first axis is substantially orthogonal to the second axis.

15. (original) ~~The rollover sensing apparatus as defined in claim 14,~~ wherein the first axis is oriented at an angle of approximately 45 degrees relative to the longitudinal axis of the vehicle, and a second axis is oriented at approximately 45 degrees relative to the longitudinal axis of the vehicle.

16. – 26. (canceled)

27. (new) A vehicle rollover sensing apparatus for generating a safing signal, said rollover sensing apparatus comprising:

a first linear acceleration sensor located on a vehicle and oriented in a first axis at an angle offset from the longitudinal and lateral axes of the vehicle, said first linear acceleration sensor providing a first acceleration signal;

a second linear acceleration sensor located on the vehicle adjacent the first linear acceleration sensor and oriented in a second axis at an angle offset from the first axis and the longitudinal and lateral axes of the vehicle, said second acceleration sensor providing a second acceleration signal; and

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control logic for (1) storing at least one threshold value of linear acceleration or a parameter derived therefrom for each of a plurality of predetermined, unique vehicle pre-rollover events, (2) receiving and comparing numbers derived from said first and second acceleration signals with said stored threshold values and (3) generating a safing signal on the basis of said comparisons,

wherein one of the plurality of predetermined, unique vehicle pre-rollover events comprises a rough road condition, defined when first and second oscillation values derived from changes in the first and second acceleration signals both exceed an oscillation threshold for a predetermined time period.

28 (new) A rollover sensing apparatus for detecting an anticipated overturn condition for a vehicle, said apparatus comprising:

at least one sensor located on a vehicle for detecting a vehicle roll characteristic;

rollover discrimination logic for generating a rollover discrimination signal;

first and second linear acceleration sensors located on a vehicle adjacent to each other and oriented at first and second axes offset from each other and from the longitudinal and lateral axes the vehicle, said first linear and second linear acceleration sensors providing, respectively, a first acceleration signal and a second acceleration signal;

safing logic for (1) storing at least one threshold value of linear acceleration or a parameter derived therefrom for each of a plurality of predetermined, unique vehicle pre-rollover events, (2) receiving and comparing said sensed components of the acceleration or parameters derived therefrom with said stored threshold values and (3) generating a safing signal on the basis of said comparisons, wherein one of the plurality of predetermined, unique vehicle pre-rollover events comprises a rough road condition, defined when first

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and second oscillation values derived from changes in the first and second acceleration signals both exceed an oscillation threshold for a predetermined time period; and

control logic for processing the discrimination signal and safing signal and generating a vehicle rollover output signal.